ABSTRACT

A system for processing a speech signal to enhance signal intelligibility identifies portions of the speech signal that include sounds that typically present intelligibility problems and modifies those portions in an appropriate manner. First, the speech signal is divided into a plurality of time-based frames. Each of the frames is then analyzed to determine a sound type associated with the frame. Selected frames are then modified based on the sound type associated with the frame or with surrounding frames. For example, the amplitude of frames determined to include unvoiced plosive sounds may be boosted as these sounds are known to be important to intelligibility and are typically harder to hear than other sounds in normal speech. In a similar manner, the amplitudes of frames preceding such unvoiced plosive sounds can be reduced to better accentuate the plosive. Such techniques will make these sounds easier to distinguish upon subsequent playback.